REMARKS

New claims 30 and 31 were added. Therefore, claims 1 - 31 remain pending in the present application. Claims 2-4, 6, 7, 9, 19 and 20 were previously withdrawn from consideration. The objections and rejections set forth in the Office Action are respectfully traversed below.

Claim objections

Claims 8 and 29 were amended above to correct the minor typographical errors identified in the Office Action.

Rejections under 35 U.S.C. §103

Claims 1, 8, 10 12-18, 21 and 23-28 were rejected under 35 U.S.C. §103 over **Crook** et al. (USP 5,254,953) in view of **Chatterjee** (USP 6,111,414). Claim 29 was rejected under 35 U.S.C. §103 over **Crook**, in view of **Buckles** et al. (USP 6,027,500). Claims 5, 11 and 22 were rejected under 35 U.S.C. §103 over **Crook**, **Chatterjee**, and further in view of **Indihar** (USP 6,650,126). However, it is submitted that nothing in the prior art, either alone or in combination, teaches or suggests all the features recited in the present claimed invention.

For instance, independent claims 1, 18 and 29 were amended above to clarify that the inductive element is connected to the capacitive coupling means ... "***in order to inspect said electrical conductivity under a low resistance***." In addition, new claims 30 and 31 further define the "low resistance" as ranging from about 10 Ω to about 100 Ω. One primary feature of the present invention is to employ a resonance circuit in combination with the non-contact coupling capacitance in order to allow a continuity inspection apparatus to inspect electrical

conductivity, not only under a high resistance as already possible in the conventional art, but also under a low resistance, such as ranging from about 10 Ωto about 100 Ω (*see, e.g.,* page 2 of the specification). Nothing in the prior art teaches or suggests at least these features.

The primary reference to **Crook** discloses a conventional non-contact/contact system (using a capacitive coupling electrode 106 and a probe 540). The Office Action admitted that **Crook** does not teach or suggest any inductive element nor any resonance circuit connected to the capacitive coupling means 106. **Crook** teaches no more than the conventional art described in the background section of the present specification.

The further reference to **Chatterjee** was made for disclosing the use of a resonance circuit employing an inductance L connected either in series or parallel to a capacitance C (column 3, line 64 to column 4, line 1). However, **Chartterjee** is directed to an RF resonator having a resonance circuit with relatively high Q factor for testing multi-chip modules for defects. There is no discussion in **Chatterjee** for applying resonance circuits in a non-contact test system for inspecting circuit boards.

Neither **Crook** nor **Chatterjee** addresses or appreciates the limitations in conventional non-contact/contact combined test systems which cannot detect defects when there is a low resistance, such as ranging from about 10 Ωto about 100 Ω. As mentioned above, one primary feature of the present invention is to provide a continuity inspection apparatus capable of inspecting any electrical conductivity, not only under a high resistance, but also under a low resistance as recited in the present claimed invention, by making a capacitance provided in the non-contact system generate a resonance in oscillation of a circuit formed on a circuit board to

reduce the impendence of the circuit. For at least these reasons, the present claimed invention patentably distinguishes over the prior art.

As for the reference to **Buckles**, it is submitted that **Buckles** does not constitute an "analogous art." In particular, **Buckles** is directed to an electronic medical device related to detecting intracardiac ECG signals. Even though **Buckles** describes the use of inductors having a constant that falls with the claimed range of claim 29 of the present application, the teachings of **Buckles** have absolutely nothing to do with testing of semiconductor devices, or more specifically, for inspecting electrical continuity of circuit boards. Therefore, the reliance on the combination of **Crook** and **Buckles** for rejecting claim 29 is improper and should be withdrawn.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact the undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 50-2866.

Respectfully Submitted,

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